

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in Echinacea spp

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	3,5-DICAFFEYOYL-QUINIC-ACID	Plant	--	--		Economic & Medicinal Plant Research, 5: 253.
28	ALPHA-PINENE	Fruit	--	--		Economic & Medicinal Plant Research, 5: 253.
5	ALUMINUM	Root	786	12900	6.609103108636193	Economic & Medicinal Plant Research, 5: 253.
101	APIGENIN	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
6	ARABINO GALACTAN	Root	--	--		Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
112	ASCORBIC-ACID	Leaf	2140	2140	-0.24535536616295778	Economic & Medicinal Plant Research, 5: 253.
112	ASCORBIC-ACID	Root	843	843	-0.16407727962118843	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
53	BETA-CAROTENE	Root	2.2	2.2	-0.4223548942066434	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
13	BETA-PINENE	Fruit	--	--		Economic & Medicinal Plant Research, 5: 253.
47	BETA-SITOSTEROL	Shoot	--	--		Economic & Medicinal Plant Research, 5: 253.
14	BETAINE	Root	--	--		Economic & Medicinal Plant Research, 5: 253.
35	BORNEOL	Plant	--	--		Economic & Medicinal Plant Research, 5: 253.
12	BORNYL-ACETATE	Plant	--	--		Economic & Medicinal Plant Research, 5: 253.
102	CAFFEIC-ACID	Plant	--	--		
28	CALCIUM	Root	3290	7760	0.03911936916970287	Economic & Medicinal Plant Research, 5: 253.
31	CARYOPHYLLENE	Root	42	42	-0.6463900093826075	Economic & Medicinal Plant Research, 5: 253.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	CARYOPHYLLENE-EPOXIDE	Root	26	26		Economic & Medicinal Plant Research, 5: 253.
77	CHLOROGENIC-ACID	Shoot	--	--		Economic & Medicinal Plant Research, 5: 253.
24	CHROMIUM	Root	19	19	3.226984382736168	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	CICHORIC-ACID	Flower	12000	31000		Economic & Medicinal Plant Research, 5: 253.
14	CICHORIC-ACID	Root	6000	21000		
2	COBALT	Root	148	148	2.6671392852066766	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
23	CYNARIN	Root	--	--		Economic & Medicinal Plant Research, 5: 253.
3	ECHINACEIN	Root	10	100	0.7071067811865475	Economic & Medicinal Plant Research, 5: 253.
2	ECHINACIN	Root	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
10	ECHINACOSIDE	Root	3000	17000	0.7071067811865469	
2	ECHINOLONE	Root	--	--		Economic & Medicinal Plant Research, 5: 253.
61	FERULIC-ACID	Plant	--	--		
15	FIBER	Root	111000	111000	0.5083064852727784	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
2	GERMACRENE-D	Root	--	--		Economic & Medicinal Plant Research, 5: 253.
1	HETEROXYLAN	Root	800	800		
2	HUMULENE	Root	8	12		Economic & Medicinal Plant Research, 5: 253.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
19	INULIN	Root	59000	200000	-0.39833681982829794	
6	IRON	Root	700	4800	6.531741131693913	
4	ISOCHLOROGENIC-ACID	Shoot	--	--		Economic & Medicinal Plant Research, 5: 253.
2	ISORHAMNETIN-3-RUTINOSIDE	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
75	KAEMPFEROL	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
4	KAEMPFEROL-3-O-GLUCOSIDE	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
60	LIMONENE	Fruit	--	--		Economic & Medicinal Plant Research, 5: 253.
78	LUTEOLIN	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
7	LUTEOLIN-7-GLUCOSIDE	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
65	MAGNESIUM	Root	1170	1860	-0.3732958440640499	
14	MANGANESE	Root	101	101	0.6601606462244966	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
22	MYRCENE	Fruit	--	--		Economic & Medicinal Plant Research, 5: 253.
39	NIACIN	Root	--	17	-0.9633392827635444	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
13	PALMITIC-ACID	Root	--	--		Economic & Medicinal Plant Research, 5: 253.
4	PHOSPHORUS	Root	790	790	-0.47928982526561387	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
3	PONTICAEPOXIDE	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	POTASSIUM	Root	3140	8090	-0.5629990790704673	
176	QUERCETIN	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
2	QUERCETIN-3'-GLUCOSIDE	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
15	RIBOFLAVIN	Bark	12	3	-0.04398526740271707	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
87	RUTIN	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
4	RUTOSIDE	Leaf	--	--		Economic & Medicinal Plant Research, 5: 253.
60	SELENIUM	Root	--	0.5	-0.3268846586034691	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	SILICON	Root	301	8	-0.30615522402124107	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	SODIUM	Root	90	90	-0.4708671369343761	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
12	STIGMASTEROL	Shoot	--	--		Economic & Medicinal Plant Research, 5: 253.
31	THIAMIN	Root	2.6	2.6	-0.3624549785956239	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	TIN	Root	17	1.7	-1.5030133891091328	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	TUSSILAGINE	Root	15	60		
28	VANILLIN	Plant	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
20	VERBASCOSIDE	Root	--	--		Economic & Medicinal Plant Research, 5: 253.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
77	ZINC	Root	51	5.1	-0.8355779101426338	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.